In the claims:

For the Examiner's convenience, Applicants present all claims with status indicator in compliance with the practice guidelines for making amendments under 37 C.F.R. §1.121(c) (1).

Please amend claims 39, 40, 160, and 178 and add new claims 183-186 as follows:

1-38. (CANCELLED)

39. (CURRENTLY AMENDED) A method of differentiating clonally isolated ~~adipose-derived~~ stem cells having telomeric activity obtained from adipose tissue wherein the stem cells differentiate into cells of any two or more of a fat cell, a bone cell, a cartilage cell, and a muscle cell comprising culturing the stem cell in any of adipogenic, osteogenic, chondrogenic, and myogenic morphogenic medium under conditions sufficient for the cell to differentiate.

40. (CURRENTLY AMENDED) The method of claim 39, wherein the medium is any of adipogenic, chondrogenic, ~~cardiogenic, dermatogenic, embryonic, fetal~~, myogenic, or osteogenic~~, or stromogenic~~ media.

41. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the morphogenic medium is an adipogenic medium and the cell is monitored to identify adipogenic differentiation.

42. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the morphogenic medium is a chondrogenic medium and the cell is monitored to identify chondrogenic differentiation.

43. (CANCELLED)

44. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the morphogenic medium is a myogenic medium and the cell is monitored to identify myogenic differentiation.

45. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the morphogenic medium is an osteogenic medium and the cell is monitored to identify osteogenic differentiation.

46. (CANCELLED)

47. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the cell differentiates in vitro.

48. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the cell differentiates in vivo.

49-56. (CANCELLED)

57. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the cell is within a defined cell population.

58-159. (CANCELLED)

160. (CURRENTLY AMENDED) A method of inducing the differentiation of a clonally isolated ~~adipose-derived~~ stem cell having telomeric activity obtained from adipose tissue wherein the stem cells differentiate into cells of any two or more of a fat cell, a bone cell, a cartilage cell, and a muscle cell comprising

culturing the stem cell in any of adipogenic, osteogenic, chondrogenic, and myogenic morphogenic suitable medium effective to induce differentiation under suitable differentiation conditions.

161. (PREVIOUSLY PRESENTED) The method of claim 160 wherein said medium is a conditioned medium of a specific cell type.

162. (PREVIOUSLY PRESENTED) The method of claim 160, further comprising co-culturing the cell with a cell of desired lineage.

163-168. (CANCELLED)

169. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the muscle cell is any of skeletal muscle, cardiac muscle or smooth muscle.

170. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the muscle cells express muscle specific proteins.

171. (PREVIOUSLY PRESENTED) The method of claim 170, wherein the muscle specific proteins are myoD or myosin heavy chain.

172. (PREVIOUSLY PRESENTED) The method of claim 39, wherein the cell differentiates into a precursor of a fat cell, a bone cell, a cartilage cell or a muscle cell.

173. (PREVIOUSLY PRESENTED) The method of claim 39, wherein any of adipogenic, osteogenic, chondrogenic, and myogenic morphogenic medium is supplemented with growth factors, cytokines or extracellular matrix materials.

174. (PREVIOUSLY PRESENTED) The method of claim 39, further comprising introducing the cells into a biologically compatible lattice.

175. (PREVIOUSLY PRESENTED) The method of claim 174, wherein the lattice comprises a mesh, sponge, or hydrogel.

176. (PREVIOUSLY PRESENTED) The method of claim 174, wherein the lattice is homopolymeric or heteropolymeric.

177. (PREVIOUSLY PRESENTED) The method of claim 174, wherein the lattice comprises hormones.

178. (CURRENTLY AMENDED) The method of claim 174, wherein the lattice comprises extracellular matrix materials, ~~such as~~ wherein the extracellular matrix materials comprise fibronectin, laminin and collagen.

179. (PREVIOUSLY PRESENTED) The method of claim 57, wherein the cell is within a heterogeneous population of clonally isolated cells.

180. (PREVIOUSLY PRESENTED) The method of claim 57, wherein the cell is within a homogeneous population of clonally isolated cells.

181. (PREVIOUSLY PRESENTED) The method of claim 39, wherein differentiation is determined by morphological changes, staining with cell specific stains, biochemical markers indicative of the desired phenotype, expression of cell specific molecules, sorting by size and granularity, or by antibody binding to cell specific molecules.

182. (PREVIOUSLY PRESENTED) The method of claim 161, wherein the conditioned medium is medium to which the clonally isolated adipose derived stem cells are exposed and cultured.

183. (NEW) The method of claims 39 or 160, wherein the stem cells express telomerase.

184. (NEW) The method of claims 39 or 160, wherein the stem cells have longer telomers compared to differentiated cells, the longer telomers being indicative of telomeric activity.

185. (NEW) The method of claims 39 or 160, wherein the stem cells are self-renewing.

186. (NEW) The method of claims 39 or 160, wherein the stem cells can be cultured for at least 15 passages without differentiating.